

Hypothesis Concerning the High Temperature of the Solar Corona

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Introduction

<https://www.sciencedaily.com/releases/2022/12/221226094548.htm>

I had been thinking about exactly this topic and I have a dissenting opinion on the matter. Either PPPL is mistaken or they are being deliberately misleading. PPPL has a better reputation than most of the institutions doing physics work right now, which only makes the above linked publication all the more troubling.

Abstract

That said, work that I have already done gives us clues to the solution to this longstanding mystery. Several months ago, I wrote about a fourth form of cooling responsible for our Universe being cold rather than having a tendency toward conservation of thermal energy.

I wrote that the mutual attraction of uranium nuclei to their electrons helped uranium to be effectively immune to this cooling effect, which is caused by the flow of neutrinos toward protons. Uranium's warmth, although it is caused in some small part by decay events, cannot be explained by decay alone. It has increased capacity to retain heat even after it has decayed. I am not referring to uranium's density making its total heat higher compared to a lighter element of the same temperature. I am referring to the tendency of uranium nuclei to enjoy a greater conservation of their thermal energy with each oscillation toward its own electron cloud.

If we think of uranium nuclei like penduli, then its high number of protons and electrons bring these two mutually attractive particle types into sufficiently close proximity for Coulomb forces to come into play; the mutual attraction behaving like a magnet affixed near the apex of a pendulum's swing on either side. With each swing, the oscillation becomes more pronounced or at least slows down less quickly than it would without the hesitation at each apex created by the magnets.

With a real pendulum, wind resistance would cause the pendulum to slow and eventually stop without the use of counterweights. In the case of grandfather clocks, penduli are encased behind a glass door to prevent sudden gusts of wind from corrupting the accuracy of the clock.

In the case of atoms, even in a vacuum, thermal activity tends to grind to a halt over a period of time without an external heat source. While you may have learned in school that this can be explained by radiational cooling i.e. the emission of IR by physical matter, this is not the case. While exceptionally hot objects will give off IR, IR is not discernible even with advanced sensors at temperatures below about 5°C. Light emission has such a marginal cooling

effect that it is astounding that any scientist could overlook the gap between the rate of cooling of a solid object in a vacuum and the amount of cooling that could be accounted for by IR emissions.

Therefore, in my previous publication on the matter of the fourth type of cooling, I concluded that the cooling was being caused by neutrinos attracted to protons and that uranium's high proton/electron count meant that internal Coulomb forces counteracted most of this cooling effect, leading to uranium's status as an exceptional element that boasts nearly perfect conservation of thermal energy.

Now, let us consider the protons and electrons that escape from the Sun's magnetic field and their dynamics. From the moment they exit the strongest part of that magnetic field, they are in the plasmonic state i.e. electrons are flying parallel to protons rather than orbiting them.

If we assume that neutrino flux (incidentally also the source of gravity) is dictated by the count of protons and we have only one proton, and those protons are in a vacuum where there is no medium through which conductive or convective cooling might come into play, and we furthermore observe that the light emissions from the Sun mean that there is a phenomenally high count of electrons in close proximity to each proton (with none of them in an orbit that might intercept neutrinos heading toward the protons) then what we have is a recipe for runaway thermal heating in the corona.

Conclusion

As areas of increased electron density alternate from one side of a proton to another, this is akin to magnetically manipulating a pendulum (which, by the way, is completely untethered since it's a plasma,) so that its swing becomes increasingly rapid and extreme.

PPPL's publication on this matter frankly reads like nonsense as engaging a magnetic field and disengaging repeatedly will only heat an object if that object is a box of masonry nails and the nails are thrown into an MRI machine.

The force that causes coronal heating of protons is Coulomb, not magnetism.